

# PATENT ABSTRACTS OF JAPAN

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(54) OPTICAL TRANSMITTING AND RECEIVING MODULE

**(57) Abstract:**

**PROBLEM TO BE SOLVED:** To provide an easily manufacturable optical transmitting and receiving module for two-wavelength simultaneous two-way communications.

**SOLUTION:** The optical transmitting and receiving module is equipped with an optical waveguide board 1, on which a V-type waveguide 23 is formed and in which a dielectric multilayer film filter 14 reflecting a transmission optical wavelength and transmitting a reception optical wavelength is formed on the end face, equipped with a linear optical waveguide base plate 51, on which a linear waveguide 21' is formed and in which a light shielding dielectric multilayer film filter 14' shielding a transmission optical wavelength is formed on the end face, and equipped with a submount 52 having a reception photodiode 10 on the side face. With the branching end face of the V-type optical waveguide 23 placed opposite to one end face of the linear optical waveguide 21', the optical waveguide base plate 1 is fixedly attached to the linear optical waveguide base plate 51, the light receiving face of the photodiode 10 is positioned on the extension of the optical axis of

the linear optical waveguide 21', and thus, the submount 52 is installed in the module.

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